GEIST Research Projects

The group has been involved in number of research projects.

Current projects

HuLCKA

Read more on HuLCKA which aims at investigating methods for combining background knowledge with clustering algorithms and eXplainable Artificial Intelligence (XAI) methods in order to provide comprehensive framework for human-in-the loop data analysis. The main objective of HuLCKA is to extend it with diverse knowledge augmentation methods, explanation mechanisms and data sources and enclose whole solution into a generic framework. The project is relevant to the DigiWorld as it concerns research in the areas of Artificial Intelligence (AI), explainable AI, data mining and machine learning and their applications and customisation to exact and natural sciences.

XPM

Read more on XPM

PACMEL

Read more on Pacmel

Completed projects

PANBA

Read more on PANBA which aims to continue the efforts made in BIRAFFE1 and BIRAFFE2 oriented towards developing methods for affective personalization of intelligent systems. The project is aimed at analyzing data from the BIRAFFE2 experiment and preparing a new research procedure (BIRAFFE3) that includes the use of EEG.

KnowMe

Read more on KnowMe which is a 20 months long NCN Preludium 7 project started in 2015-01. The goal of the project is to propose methods for knowledge modelling and mediation in mobile context-aware systems, to support a user in adapting the system to his or her personal preferences and habits, and to improve management of uncertain and incomplete knowledge.

See the official project webpage at: glados.kis.agh.edu.pl

Prosecco

Read more on Prosecco which is a 32 months long NCBR PBS project started in 2012-12. The goal of the project is to address the needs and constraints of small and medium enterprises (SME) by designing methods that will significantly improve their Business Process Management systems.

See the official project webpage at: prosecco.agh.edu.pl

SaMURaI

Read more on SaMURaI, which is a 24 months long NCN project started in 2012-09. The main objective of the project is the development of a *Semantic Method for Unified Rules Interoperability in Knowledge-Based Systems*.

HiBuProBuRul

Read more on HiBuProBuRul, which is a 24 months long NCN project started in 2012-09. The main objective of the project is the development of a *Methodology for designing Hierarchical Business Processes integrated with Business Rules*.

INDECT

Read more on GEIST participation INDECT, which is a large EU collaboration project coordinated by Department of Telecommunications of AGH. The aim of the project is the development of an intelligent information system supporting observation, searching and detection for security of citizens in urban environment.

See the official project webpage at: www.indect-project.eu

Parnas

Read more on Parnas, which was a 18 month long NCN project on *tools for inference control and quality analysis in modularized rulebases*.

See the project webpage at: parnas.ia.agh.edu.pl

BIMLOQ

Read more on BIMLOQ, which was 32 month long NCN project on *business models and processes optimization for quality*.

See the project webpage at: bimloq.ia.agh.edu.pl

HeKatE

Read more on HeKatE, which was a 30 month long NCN project on *hybrid knowledge engineering methodology for knowledge-based systems*.

See the project webpage at: hekate.ia.agh.edu.pl

Related projects

The members of the group were involved in several projects. Selected projects include:

Adder

ID: KBN 4 T11C 035 2
Timeline: 2005→2006
Leader: Tomasz Szmuc
Principal investigators from GEIST: Marcin Szpyrka, Antoni Ligęza, Grzegorz J. Nalepa
Objective: research on formal methods in design of correct real-time and embedded systems, including rule-based systems
GEIST members' contribution: methods and tools for design and analysis of rule-based security systems
Adder webpage: home.agh.edu.pl/~adder

Mirella

ID: KBN 4 T11C 027 24
Timeline: 2003→2004
Scientific adviser: Antoni Ligęza
Principal investigator: Grzegorz J. Nalepa
Objective: proposal of an integrated process of visual design, formal analysis and implementation of rule-based expert systems, supported by a CASE tool, preparation of a PhD thesis: Meta-Level Approach to Integrated Process of Design and Implementation of Rule-Based Systems
Mirella webpage: mirella.ia.agh.edu.pl

Regulus

ID: KBN 8 T11C 019 17
Timeline: 1999→2001
Leader: Antoni Ligęza
Principal investigators from GEIST: Antoni Ligęza, Grzegorz J. Nalepa
Objective: development of formal methods for knowledge representation and engineering in artificial intelligence

Regulus webpage: regulus.ia.agh.edu.pl

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